**PARUL UNIVERSITY**

**PIET/PIT - CSE/IT**

**Operating System (203105203)**

**UNIT- 3 ASSIGNMENT - 3**

**(A)Multiple Choice Questions**

1. What is Inter process communication?  
a) allows processes to communicate and synchronize their actions when using the same address space  
b) allows processes to communicate and synchronize their actions without using the same address space  
c) allows the processes to only synchronize their actions without communication  
d) none of the mentioned

2. Which of the following two operations are provided by the IPC facility?  
a) write & delete message  
b) delete & receive message  
c) send & delete message  
d) receive & send message

3. The link between two processes P and Q to send and receive messages is called \_\_\_\_\_\_\_\_\_\_  
a) communication link  
b) message-passing link  
c) synchronization link  
d) all of the mentioned

4.  In the non blocking send \_\_\_\_\_\_\_\_\_\_  
a) the sending process keeps sending until the message is received  
b) the sending process sends the message and resumes operation  
c) the sending process keeps sending until it receives a message  
d) none of the mentioned

5.Bounded capacity and Unbounded capacity queues are referred to as \_\_\_\_\_\_\_\_\_\_  
a) Programmed buffering  
b) Automatic buffering  
c) User defined buffering  
d) No buffering

6.Which process can be affected by other processes executing in the system?  
a) cooperating process  
b) child process  
c) parent process  
d) init process

7. When several processes access the same data concurrently and the outcome of the execution depends on the particular order in which the access takes place, is called?  
a) dynamic condition  
b) race condition  
c) essential condition  
d) critical condition

8.  If a process is executing in its critical section, then no other processes can be executing in their critical section. This condition is called?  
a) mutual exclusion  
b) critical exclusion  
c) synchronous exclusion  
d) asynchronous exclusion

9.Which one of the following is a synchronization tool?  
a) thread  
b) pipe  
c) semaphore  
d) socket

10.  A semaphore is a shared integer variable \_\_\_\_\_\_\_\_\_\_  
a) that cannot drop below zero  
b) that cannot be more than zero  
c) that cannot drop below one  
d) that cannot be more than one

11.Mutual exclusion can be provided by the \_\_\_\_\_\_\_\_\_\_  
a) mutex locks  
b) binary semaphores  
c) both mutex locks and binary semaphores  
d) none of the mentioned

12.Process synchronization can be done on \_\_\_\_\_\_\_\_\_\_  
a) hardware level  
b) software level  
c) both hardware and software level  
d) none of the mentioned

13.which are two fundamental of interprocess communication

1.shared memory

2.message passing

3. independent

4. cooperating

a)1,2

b)2,3

c)3,4

d)1,4

14. message passing provides a mechanism to allow processes to communicate and to synchronize their action

a)by sharing the same address space

b)without sharing the same address space

c)by sharing the same process number and process identifier

d) none of the above

15. in message-passing system of interprocess communication

a) Messages sent by a process ca be either fixed or variable in size

b) Messages sent by a process can be fixed in size

c) Messages sent by process can be variable in size

d) None of the above

**(B)one line questions**

1. why we need IPC?

2. write down types of semaphore

3.what is bounded waiting?

4. reader and writer can access same file at a time (yes/no) and?

5. what is critical section ?

**(C) Long question**

1. explain race condition with example

2. what is need if critical section and solution to critical explain

3. explain reader and write problem in brief

4. explain dinning philosopher’s problem

5. explain producer and consumer problem.